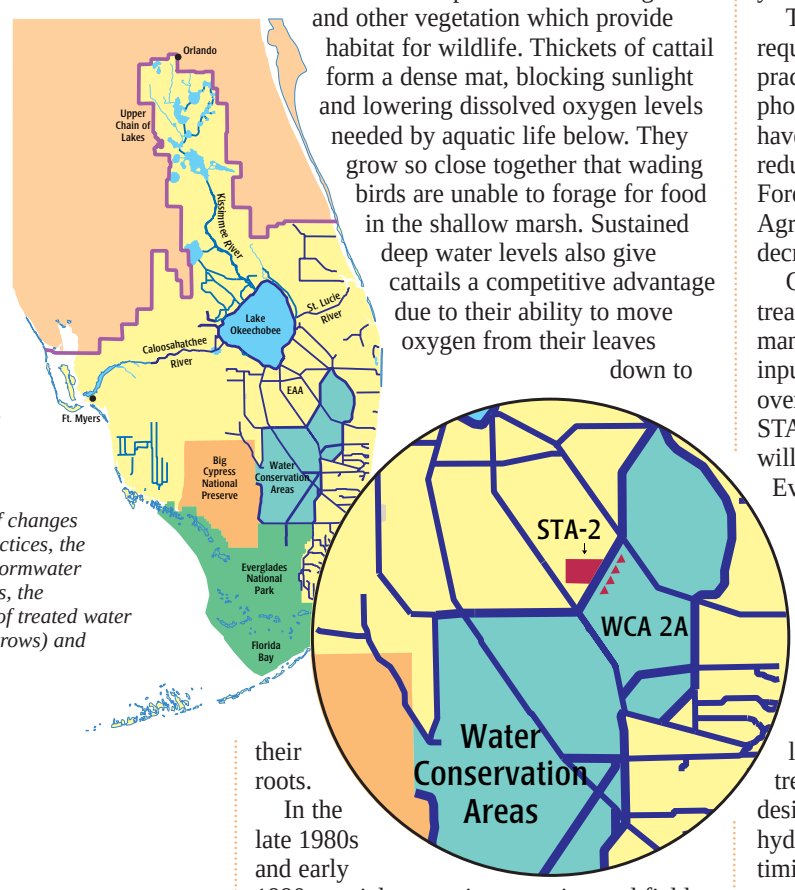
continued from front

phosphorus inflows from agricultural and urban areas, cattail began to bully its way into the Everglades landscape, out-muscling more desirable plants such as sawgrass and other vegetation which provide habitat for wildlife. Thickets of cattail form a dense mat, blocking sunlight and lowering dissolved oxygen levels needed by aquatic life below. They grow so close together that wading birds are unable to forage for food in the shallow marsh. Sustained deep water levels also give cattails a competitive advantage due to their ability to move oxygen from their leaves down to their roots.



The downward trend in cattail expansion is attributed to a combination of changes in on-farm practices, the operation of stormwater treatment areas, the redistribution of treated water inflows (red arrows) and natural fires.

In the late 1980s and early 1990s, aerial vegetation mapping and field visits in a 104,000-acre portion of the Everglades known as Water Conservation Area 2A verified intense growth stands along major inflow points. This cattail explosion was visual documentation of changes in the Everglades habitat due to excess nutrients and became a rallying cry for water quality improvements.

Improving water quality

Settlement of a federal lawsuit in 1991 and subsequent passage of the Everglades Forever Act in 1994 set into motion a series of construction, research and regulatory programs designed to significantly reduce phosphorus inflows into the Everglades. A major component is the construction of several large wetlands, known as Stormwater Treatment Areas (STAs), to capture and biologically remove excess nutrients from farm water. Four STAs have been built and two more are scheduled to come on-line this year.

The agricultural industry was also required to implement changes in on-farm practices to reduce the amount of phosphorus leaving farm fields. Growers have consistently surpassed the 25% reduction mandated by the Everglades Forever Act. This year, the Everglades Agricultural Area (EAA) documented a 35% decrease in phosphorus levels.

Combined, the existing stormwater treatment areas and farming best management practices have cut phosphorus inputs to the Everglades by 1,400 metric tons over the past decade. "When the additional STAs become operational, even more water will be cleansed before release into the Everglades," said Merriam.

The District has developed a Long-Term Plan – embodied in the amended Everglades Forever Act passed this year – for further reducing phosphorus inflows and to accelerate recovery of impacted areas. Examples of potential methods include harvesting/physical removal of cattail, adjustments in water levels, prescribed burning, chemical treatments and the re-planting of more desirable species. Improvements in hydropatterns (water depth, flow and timing/distribution) are also planned.

High-tech mapping

Ken Rutchey, a senior supervising environmental scientist, oversees the WCA-2A cattail mapping project.

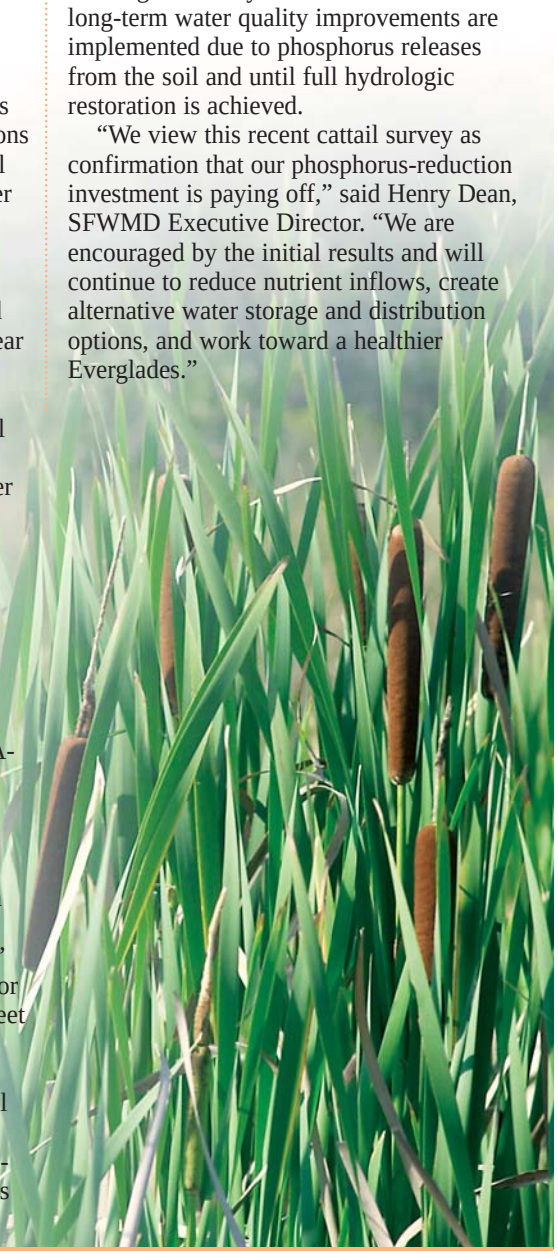
"We monitor the extent and density of cattail to determine if water management practices are having an effect on plant communities," he said. "The resulting data trends provide us with an indication of the condition and dynamics of the ecosystem."

Scientists and technicians start with color infrared aerial photographs taken 12,000 feet above the earth. A fine resolution grid system – divided into 170,500 individual cells – is then superimposed over the aerial images. Each grid cell is analyzed for vegetation and cattail coverage. To ground-truth the data, 742 GPS-identified locations were visited by airboat or helicopter. The 2003 aerial photos were then compared with ones taken in 1991 and 1995 (prior to implementation of the phosphorus-reduction measures) to determine the changes, if any, in cattail coverage.

Results are encouraging

Results show that while the spread of cattail continues in the Everglades water conservation area, the rate of expansion is slowing down. It is important to note that cattail growth may continue even as the long-term water quality improvements are implemented due to phosphorus releases from the soil and until full hydrologic restoration is achieved.

"We view this recent cattail survey as confirmation that our phosphorus-reduction investment is paying off," said Henry Dean, SFWMD Executive Director. "We are encouraged by the initial results and will continue to reduce nutrient inflows, create alternative water storage and distribution options, and work toward a healthier Everglades."



Supreme Court Ruling Crucial to Everglades Restoration

Nationwide impacts at stake

The U.S. Supreme Court, recognizing the importance of the legal principles at stake, has agreed to hear a South Florida case that has both local and national consequences. In a brief filed in September, the South Florida Water Management District argues that a lower federal court's misinterpretation of a specific section of the federal Clean Water Act will add barriers to environmental protection of the Everglades, and will substantially increase the regulatory burden and cost for public water management agencies across the country.

"We're already well on the way to cleaning up the Everglades. Yet our progress could be diverted – or even reversed – if the law is wrongly applied," said Nicolás Gutiérrez, District Governing Board Chair. "Unless the lower court's misreading of the law is overturned, there will be serious national consequences for the environment and the economy."

A broad coalition supports the District's position, including cities, states, attorneys general, water management agencies, and associations and advocacy groups from around the nation.

The case before the U.S. Supreme Court – South Florida Water Management District vs. Miccosukee Tribe of Indians – focuses on the permitting of a single pumping station (S-9) within the Everglades in western Broward County. The Miccosukee Tribe asserts that, under the federal Clean Water Act, SFWMD should be required to obtain a federal National Pollutant Discharge Elimination System (NPDES) permit in order to transfer water from the C-11 canal to Everglades Water Conservation Area 3A. The S-9 pumping station (pictured at left) is permitted by the state and is required to meet state water quality standards.

Lower federal courts have held that an NPDES permit is required for the District to move water in the areas in question. Those lower courts, according to SFWMD, misinterpreted the intent of Congress in framing the law, and failed to understand the restrictions that an NPDES permit would place on Everglades Restoration.

The District is mandated to move water throughout the regional public works project to provide flood protection and to protect regional water supplies for the residents of central and south Florida. The water in the C-11 basin receives untreated runoff from area residential and commercial properties. SFWMD is not violating any regulatory requirement of the federal Clean Water Act by merely moving water for purposes intended to serve the public good.

The Miccosukee Tribe argues that SFWMD is a "polluter" when, in fact, the SFWMD adds no pollutants to the water as it moves through the system. SFWMD and its coalition of supporters argue that Congress intended that a NPDES permit should be required only to regulate those who add pollutants to the water.

"As a public agency, we always comply with environmental regulations that apply to us," said Sheryl Wood, General Counsel of SFWMD. "But this section of the law was never envisioned by Congress to apply to public water-management agencies who supply drinking water and restrain floodwaters. Clearly, Congress intended this part of the law to apply to industrial polluters who add dangerous pollutants to the nation's water."

Added Gutiérrez, "If we win this case, the real winner will be our nation's environment, which will enjoy a faster and more effective cleanup. But if we lose, the real losers will be the nation's taxpayers, who will see their scarce resources frittered away on needless bureaucratic paperwork instead of practical measures that protect our environment."

For more detailed information about this case, see our web site (www.sfwmd.gov/gover/s_9final/home/).